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The Distribution of *Conoderus scissus* (Schaeffer) with Notes on Some Taxonomic Characters (Coleoptera: Elateridae: Agrypninae)

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ABSTRACT

The small click beetle *Conoderus scissus* has hitherto been perceived as being largely restricted to the Coastal Plain of extreme southeastern United States (South Carolina to Mississippi); its recent capture at two localities in eastern Virginia extends the known range about 675 km northward. Specimens preserved in regional collections reveal statewide occurrence in Georgia, and westward extension along the Gulf Coast into southern Mississippi. Dates of collection at peripheral localities imply successful migration within the past several decades. Detailed information on several taxonomic characters and a dot map of the currently-known distribution are given.

Key words: beetles, *Conoderus scissus*, distribution, Elateridae, southeastern United States.

Collections of click beetles recently received at the Virginia Museum of Natural History included a small, unfamiliar species of Agrypninae which, with Van Dyke's (1932) synopsis of *Conoderus*, was identified as *C. scissus* (Schaeffer, 1909). Since this species is documented only for a few localities between Mississippi and South Carolina, its discovery at two localities in coastal Virginia represents a northward extension of the known range of about 675 kilometers (420 miles).

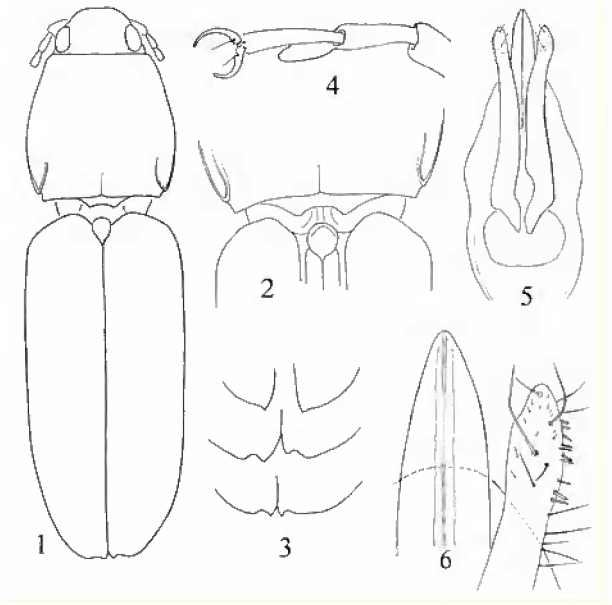
VIRGINIA: *Northampton Co.*: Savage Neck Dunes Natural Area Preserve, 23 June-28 July, 1999, A. C. Chazal and A. K. Foster (VMNH 3), also 28 July-27 August, 1999, A. K. Foster and S. M. Roble (VMNH 1). *City of Virginia Beach*: First Landing State Park, 23 June-6 July 2003, Robert Vigneault (VMNH 13).

Schaeffer's (1909) description of this beetle was based on specimens from Tybee Island, Georgia; Van Dyke's (1932) reference to it simply repeated that locality. Löding (1945) recorded *C. scissus* from Mobile, Alabama. Fattig (1951) collected the species at Savannah, Augusta, and Cornelia in Georgia, a nearly complete south-north transect of that state. Kirk (1970) provided records for Hilton Head, Hunting Island, and Edisto Beach, South Carolina, but he did not (1969) encounter *C. scissus* in his intensive collecting around Florence, just a few miles to the north of the three cited localities. Brimley (1938, 1942) had no records for North Carolina. Lago & Testa (1989) extended the range westward to Hancock Co., Mississippi. Peck & Thomas (1998) listed only Highlands, Lake, Lee, Marion, and Santa Rosa counties in their list of Florida beetles, in which the species' range was summarized simply as "FL-GA".

This rather sketchy history of the beetle motivated an inquiry into its possible inclusion in collections of more recent origin, with emphasis on the peripheral parts of the species' range. Although the North Carolina State University insect collection has extensive material of several other small species of *Conoderus*, not a single specimen of *C. scissus* from North Carolina is represented. The University of Georgia Natural History Museum (UGA) yielded a fairly extensive list of Georgia counties where it had been taken. Janet C. Ciegler provided a tabulation of South Carolinian *C. scissus* in her personal collection (JCC) that was far more extensive for the state than previously recorded by Kirk (1969, 1970). The National Museum of Natural History (USNM) provided a recent record for Wilmington, N.C., that narrowed the gap between South Carolina and Virginia. Lastly, I obtained records from the collections at Louisiana State University (LSU), the University of Mississippi (UM), and Mississippi State University (MSU). These data, as represented on the map (Fig. 7), produce a picture quite different from the one with which I started.

From the image of an insect nearly endemic to Florida, extending up the coast only as far as extreme southeastern South Carolina, the species is now known to occur far inland on the southern Piedmont, north on the Atlantic Coastal Plain to the Delmarva Peninsula, and westward into Louisiana.

The present pattern engenders several questions, the most immediate being "Where has the species been until recently?" It has not simply been overlooked by inadequate collecting: V. M. Kirk (1969) did not find it during his prolonged survey work around Florence, S. C., prior to 1969. P. W. Fattig (1951) had only three Georgia records despite many years of thorough collecting in that state; and the NCSU collection has extensive series of other species of *Conoderus* from eastern North Carolina. The earliest documented specimen of *C. scissus* from North Carolina (USNM specimen from Wilmington) was only caught in 1996, and the Virginia material not until 1999. There is an increasing body of information suggesting extensive northward migration by various insects during the past



Figs. 1-6. *Conoderus scissus* (Schaeffer). Fig. 1. Habitus sketch of body, dorsal aspect, appendages and surface features not indicated. Fig. 2. Base of prothorax and of elytra, enlarged to show shape of scutellum and prothoracic corners more precisely. Fig. 3. Elytral apices of three specimens from First Landing State Park, Virginia. Fig. 4. Distal metatarsal podomeres, showing size and narrow shape of tarsal lamella, usually not visible from above. Fig. 5. Male genitalia, showing general shape and position of parameres and aedeagus. Fig. 6. Apex of aedeagus and right paramere, greatly enlarged, to show appearance and placement of apical setae and lateral setules. The latter are apically rounded, thus not merely broken setae.

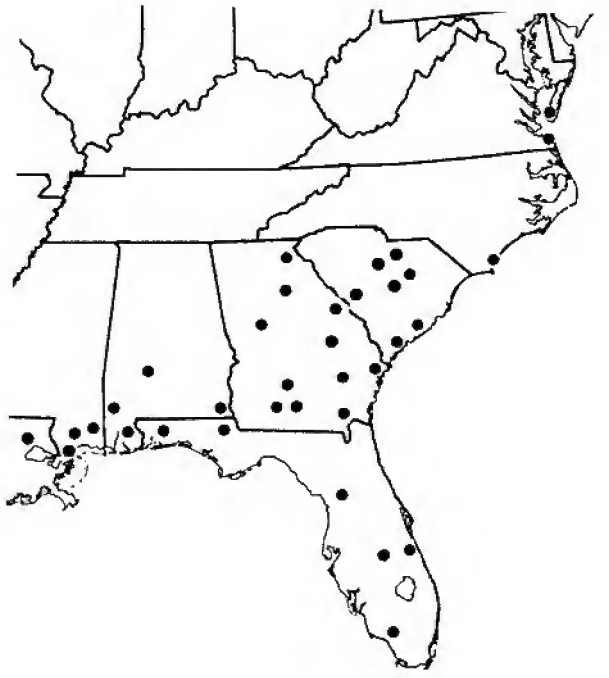


Fig. 7. Distribution of *Conoderus scissus*, based on published records and new data from museum collections.

50 years, and I venture the opinion that *C. scissus* may be among that number.

For an elaterid, *Conoderus scissus* is relatively easy to identify with confidence, being the only unicolorous member of its genus in southeastern United States having apically truncate-emarginate elytra and abbreviated posterior pronotal corners. I provide a sketch (Fig. 1) of a Virginia specimen to show the general habitus of the species. Our material agrees closely with the published descriptions except for some ambiguity about form of the elytral apices: Schaeffer (1909) wrote "apices sinuate near suture", Van Dyke (1932) expressed this profile as "elytral apices bidentate." Perhaps this is merely a subjective semantic difference: seen together the elytra do appear "bidentate". I illustrate this region to show (Fig. 3) variation evident in the Virginia series. Another character of possible specific value, the apically acute form of the scutellum (Fig. 2), has not been previously mentioned. In other Virginia species of *Conoderus*, the scutellum is bluntly rounded apically.

Schaeffer (1909) wrote "Fourth tarsal joint distinctly lobed but not quite so broadly as in *vespertinus*." In the Virginia specimens, the ventroapical lamella of the 4th tarsomere (Fig. 4) is actually ligulate in form, much narrower than in specimens of *Conoderus vespertinus* (Fabricius), in which it is distally truncate and broad enough to be

easily visible from above. It is uncertain whether Van Dyke actually had material of *C. scissus* or relied solely on the original description, since in his 1932 key, this species should conform to the second option in couplet 2: "Fourth tarsal segment with long and slender lamella beneath, the lamella not visible from above..." However, specimens do not agree with the other statements in that couplet, and even if the contradictions are disregarded and the option to couplet 17 is taken, will not match any of the three species to which that leads. Van Dyke's key would be improved by taking out *C. scissus* at a new couplet 2, distinguished by the abbreviated pronotal angles, acute scutellum, and incised elytral apices.

The male genitalia have not been illustrated for this beetle, a deficiency that I correct with the sketches provided (Figs. 5, 6). The outer distal edge of the parameres is provided with a series of tiny setules in the position normally occupied by setae.

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